



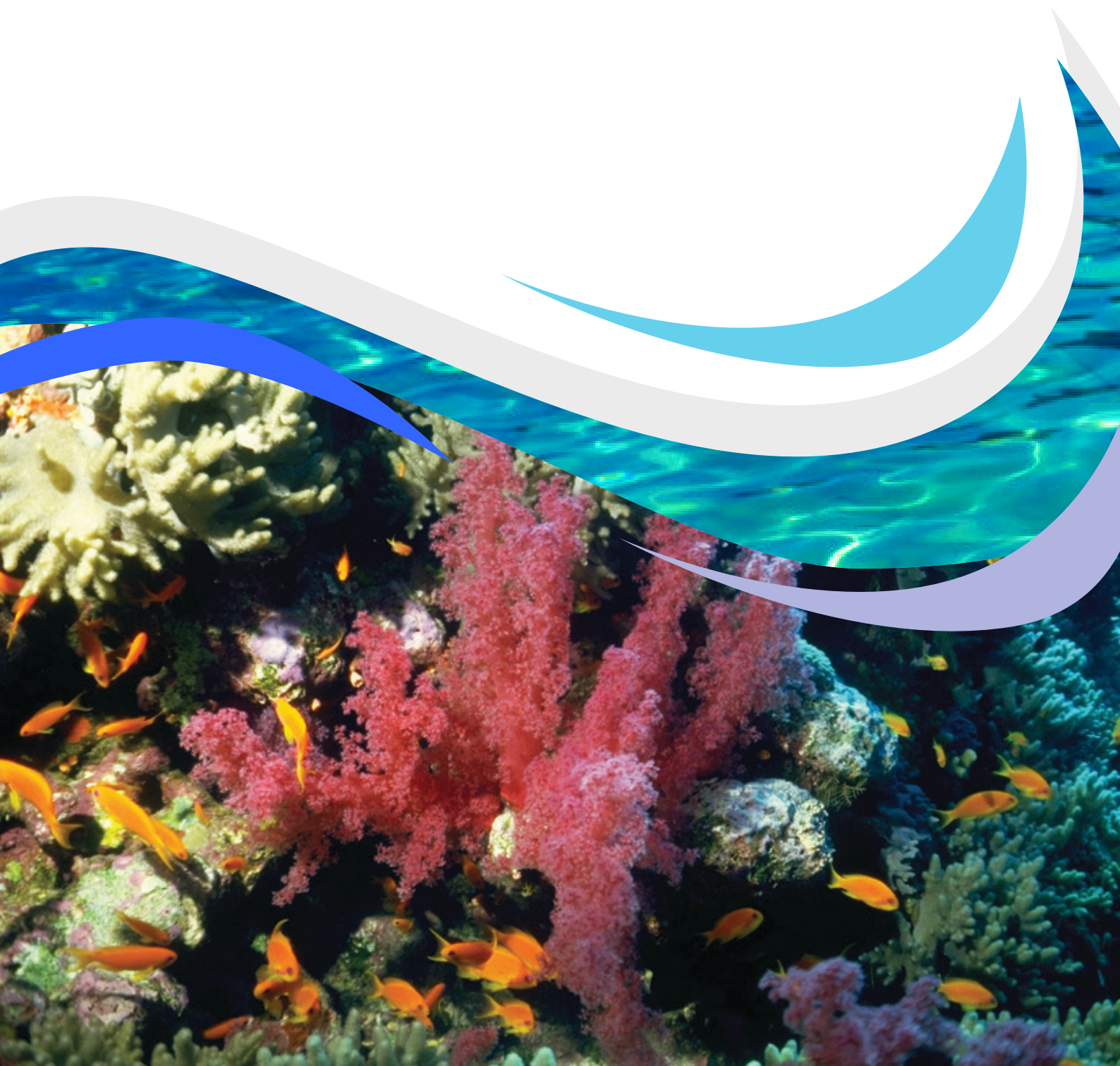
Australian Government



Queensland Government

Reef 2050 Plan

POLICY GUIDELINE FOR DECISION MAKERS



© Copyright Commonwealth of Australia, 2016.



Reef 2050 Plan—Policy guideline for decision makers is licensed by the Commonwealth of Australia for use under a Creative Commons Attribution 4.0 Australia licence with the exception of the Coat of Arms of the Commonwealth of Australia, the logo of the agency responsible for publishing the report, content supplied by third parties, and any images depicting people. For licence conditions see: <https://creativecommons.org/licenses/by/4.0/>

This report should be attributed as '*Reef 2050 Plan—Policy guideline for decision makers*, Commonwealth of Australia 2016'.

The Commonwealth of Australia has made all reasonable efforts to identify content supplied by third parties using the following format '© Copyright, [*name of third party*]'.

Unless otherwise noted all images courtesy of the Great Barrier Reef Marine Park Authority. Copyright Commonwealth of Australia (GBRMPA).

Reef 2050 Plan

POLICY GUIDELINE FOR DECISION MAKERS



Aboriginal and Torres Strait Islander peoples
are the Traditional Owners of the
Great Barrier Reef area and have a continuing
connection to their land and sea country.



CONTENTS

| | |
|---|----|
| ABBREVIATIONS AND ACRONYMS..... | V |
| ABOUT THE REEF | VI |
| HOW TO USE THIS GUIDELINE..... | 1 |
| INTRODUCTION AND PURPOSE | 3 |
| REEF 2050 PLAN BACKGROUND AND KEY CONSIDERATIONS FOR DECISION MAKERS | 4 |
| Outstanding Universal Value | 4 |
| Outcomes framework | 4 |
| Guiding Principles | 6 |
| STEP 1: DETERMINING WHETHER THE GUIDELINE APPLIES TO YOU | 8 |
| STEP 2: IDENTIFY WHICH PRESSURE YOUR DECISION APPLIES TO AND WHETHER IT RELATES TO BUILDING PARTNERSHIPS | 11 |
| STEP 3: DETERMINING WHICH TARGETS AND OBJECTIVES ARE MOST RELEVANT... | 15 |
| STEP 4: ACKNOWLEDGING OTHER CONSIDERATIONS | 17 |
| Considering existing legislation and obligations | 17 |
| Considering specific Reef 2050 Actions | 17 |
| Taking location into account | 17 |
| Specific guidance | 18 |
| ADAPTIVE MANAGEMENT | 19 |
| Review and renewal | 19 |
| APPENDIX 1: WHAT TARGETS AND OBJECTIVES TO FOCUS ON? | 21 |
| APPENDIX 2: PRIMARY LEGISLATION APPLICABLE TO THE GREAT BARRIER REEF... | 29 |
| APPENDIX 3: GLOSSARY OF TERMS..... | 31 |
| APPENDIX 4: MONITORING AND EVALUATION QUESTIONNAIRE | 36 |
| SPECIFIC GUIDANCE: LOCAL GOVERNMENT STORM WATER MANAGEMENT PLAN... | 38 |
| Introduction and background | 38 |
| Step 1: Determine whether the Guideline applies to you | 39 |
| Step 2: Identify the pressure or theme the decision relates to | 39 |
| Step 3: Determine which targets and objectives are most relevant | 39 |
| Step 4: Acknowledge other considerations | 43 |
| Next steps | 46 |



ABBREVIATIONS AND ACRONYMS

| | |
|----------|--|
| AG | Australian Government |
| AMSA | Australian Maritime Safety Authority |
| DAF | Queensland Department of Agriculture and Fisheries |
| DILGP | Queensland Department of Infrastructure, Local Government and Planning |
| DNRM | Queensland Department of Natural Resources and Mines |
| DoEE | Australian Government Department of the Environment and Energy |
| DPC | Queensland Department of the Premier and Cabinet |
| DSD | Queensland Department of State Development |
| DSITI | Queensland Department of Science, Information Technology and Innovation |
| DTMR | Queensland Department of Transport and Main Roads |
| EHP | Queensland Department of Environment and Heritage Protection |
| EPBC Act | Environment Protection and Biodiversity Act 1999 |
| ESD | Ecologically Sustainable Development |
| GBR | Great Barrier Reef |
| GBRMPA | Great Barrier Reef Marine Park Authority |
| Industry | The industry stakeholder body responsible for an action under the Reef 2050 Plan |
| LGA | Local Government Area |
| LGAQ | Local Government Association of Queensland |
| LG | Local Government |
| NPSR | Queensland Department of National Parks, Sport and Racing |
| NRM | Natural Resource Management |
| OUV | Outstanding Universal Value |
| PM&C | Australian Government Department of the Prime Minister and Cabinet |
| QLD | The State of Queensland, the Queensland Government |
| QG | Queensland Government |
| TWCP | Total Water Cycle Management Plan |
| WHA | World Heritage Area |
| WWF | World Wildlife Fund |
| | |
| The Plan | The Reef 2050 Plan |
| The Reef | The Great Barrier Reef |

ABOUT THE REEF

The Great Barrier Reef is an Australian icon and one of the most precious ecosystems on Earth. It is a world heritage property, recognised internationally for its outstanding universal value. Containing a maze of reefs and islands, it stretches more than 2,300 kilometres along the Queensland coast. It is the world's largest coral reef ecosystem. It is rich in biodiversity, from mangroves and seagrasses to coral reefs and open waters.

Aboriginal and Torres Strait Islander peoples are the Traditional Owners of the Great Barrier Reef area and have a continuing connection to their land and sea country.

The Great Barrier Reef is critical to the cultural, economic and social well-being of the more than one million people live in its catchment and is valued by the national and international community. It is a marine protected area, conserving the Reef's environment and supporting a wide range of activities, including tourism, fishing, recreation, traditional use, research, defence, shipping and ports. The Reef's environment helps bring billions of dollars to Australia's economy each year and supports almost 70,000 jobs.

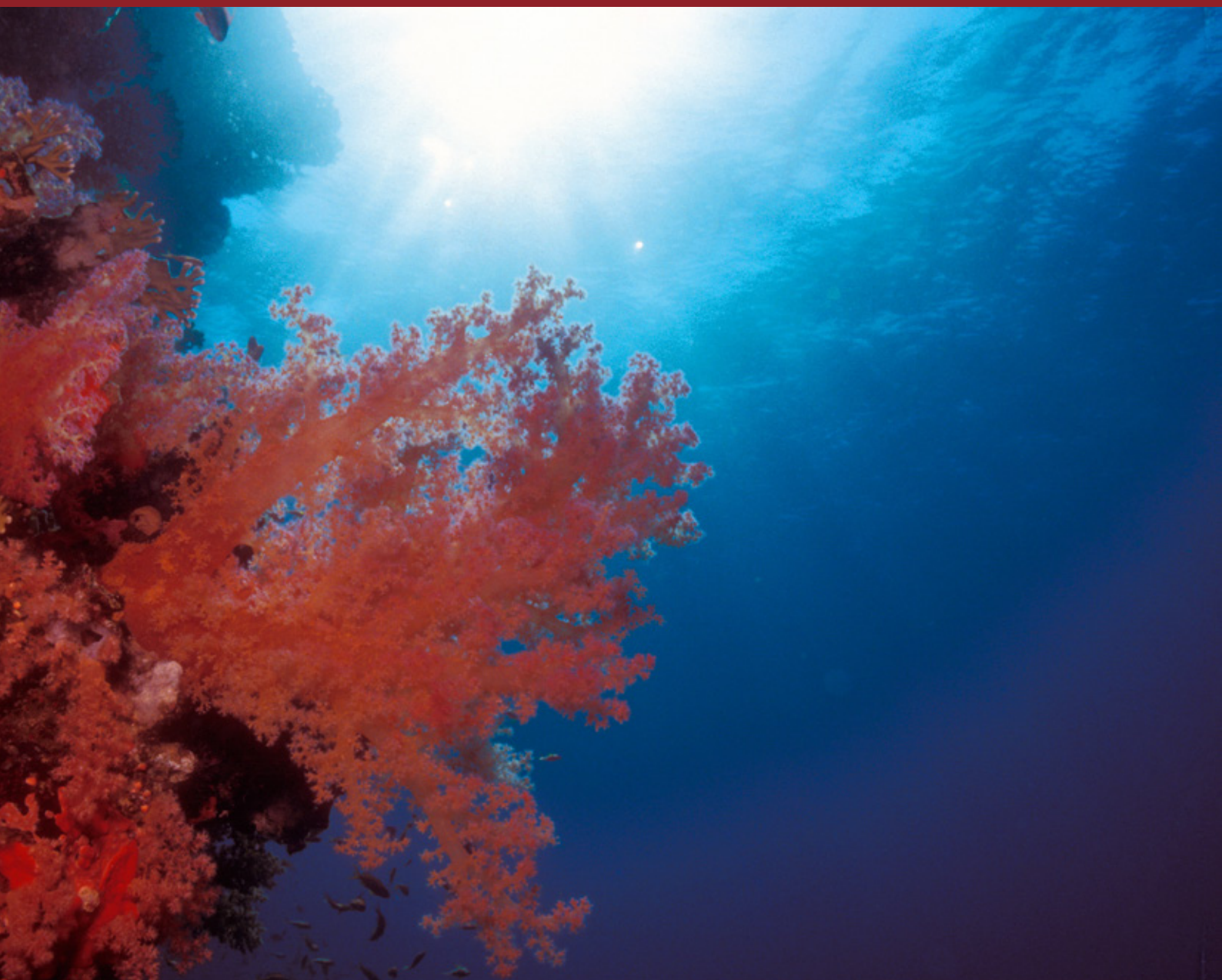


HOW TO USE THIS GUIDELINE

This guideline provides a step-by-step approach for decision makers who are **developing or reviewing** agreements, policies, programs or building partnerships, to ensure they support the Reef 2050 Plan's targets, objectives and outcomes.

The strategic goal of the policy guideline is to ensure that, over time, all decisions relevant to the Outstanding Universal Value of the Great Barrier Reef are aligned with the Reef 2050 Plan.

| Step | Questions | Guidance |
|---|--|---|
| 1. Determine whether the Guideline applies to you | Are you developing or updating an agreement, policy, program or partnership that has implications for the Outstanding Universal Value of the Great Barrier Reef World Heritage Area? | Use Table 2 to determine whether this Guideline is applicable to your decision. |
| 2. Identify which pressure your decision applies to and whether it builds partnerships | Does your decision address or influence the pressure of climate change, coastal land use change, direct use or land based runoff? Does your decision relate to building partnerships? | Use Tables 3 to identify the pressure that your decision relates to and Table 4 to identify whether your decision relates to building partnerships. |
| 3. Determine which targets and objectives are most relevant | Which objectives and targets are most relevant to the pressure(s) your decision relates to? | Table 5 broadly outlines the themes most relevant to each pressure and to building partnerships. Use Appendix 1 to determine which objectives and targets are most relevant to your decision. |
| 4. Acknowledge other considerations | Does your decision reinforce Reef 2050 Plan outcomes through incorporation of relevant actions? Does your decision take into account location? | Section 4 helps to identify other key considerations. |



INTRODUCTION AND PURPOSE

The Reef 2050 Long-Term Sustainability Plan (Reef 2050 Plan) includes the following action:

‘When reviewing relevant agreements, policies, plans, strategies and programs, ensure that they support the Plan’s outcomes and targets. For example:

- Develop a policy guideline for decision makers on how to take into account the vision, outcomes, objectives and targets in this Plan in relevant decision making.’

This Guideline aims to ensure that as relevant agreements, policies, plans, strategies and programs are developed or revised, they support the targets and objectives in the Reef 2050 Plan. Objectives and targets are the primary focus of this Guideline because they highlight how interim progress towards achieving the outcomes for 2050 can be tracked. All Reef-related decisions¹ provide a venue to highlight the vision and outcomes of Reef 2050.

The Guideline provides a step-by-step guide for decision makers to apply when updating or developing policy instruments or building partnerships. Importantly, the Guideline aims to help decision makers identify how their decisions contribute to achieving the outcomes of the Reef 2050 Plan.



School of bright blue Neon Damsels off Heron Island, Great Barrier Reef (World Heritage Listed site). Photo: Commonwealth of Australia (GBRMPA)

¹ Decisions in this guideline refer to developing or revising relevant agreements, policies, plans, strategies and programs

REEF 2050 PLAN BACKGROUND AND KEY CONSIDERATIONS FOR DECISION MAKERS

There are three key considerations within the Reef 2050 Plan that decision makers need to understand in order to incorporate the Plan into their decisions: Outstanding Universal Value, the outcomes framework and decision-making principles.

Outstanding Universal Value

The Reef 2050 Plan was adopted by the Australian and Queensland governments in 2015 to ensure protection of the Outstanding Universal Value of the Great Barrier Reef World Heritage Area.

A World Heritage Property's Outstanding Universal Value is the cultural and/or natural significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity.

For the Great Barrier Reef World Heritage Area, the Outstanding Universal Value constitutes all four natural criteria: exceptional natural beauty and aesthetic importance; significant geomorphic or physiographic features; significant ecological or biological processes; and, conservation of biological diversity.

The Great Barrier Reef World Heritage Area also meets the requirements for integrity, meaning that its natural attributes are considered to be whole and intact. For more information on the Outstanding Universal Value of the Great Barrier Reef see the statement of Outstanding Universal Value: <https://www.environment.gov.au/heritage/places/world/gbr/values>

Outcomes framework

The Reef 2050 Plan outlines a clear **vision** that we want to achieve for 2050:

‘To ensure the Great Barrier Reef continues to improve on its Outstanding Universal Value every decade between now and 2050 to be a natural wonder for each successive generation to come.’

To achieve this, the plan is structured around seven themes—ecosystem health, biodiversity, heritage, water quality, community benefits, economic benefits and governance. Each theme has its own outcomes framework linking threats, foundational activities, actions, targets and objectives to deliver the nominated outcome by 2050.



Figure 1: Outcomes framework

Threats (pressures) were derived from the Outlook Report 2014.

Foundational activities are existing regulatory, planning, field management and program responses such as the Reef Water Quality Protection Plan already underway in the Reef and its catchments.

Actions are new activities outlined in the Reef 2050 Plan which, combined with the foundational activities, contribute to achieving the targets for the theme.

Targets specify the results being aimed for by 2020. These were developed with a view to being SMART: Specific, Measurable, Achievable, Realistic and Time-bound.

Objectives link targets to outcomes and are expected to be achieved by 2035.

Outcomes are a statement of what is expected to be achieved for each theme by 2050, which will collectively contribute towards achieving the vision for the Reef.

The illustration below shows the outcomes for each theme and how these relate to the vision and Outstanding Universal Value:

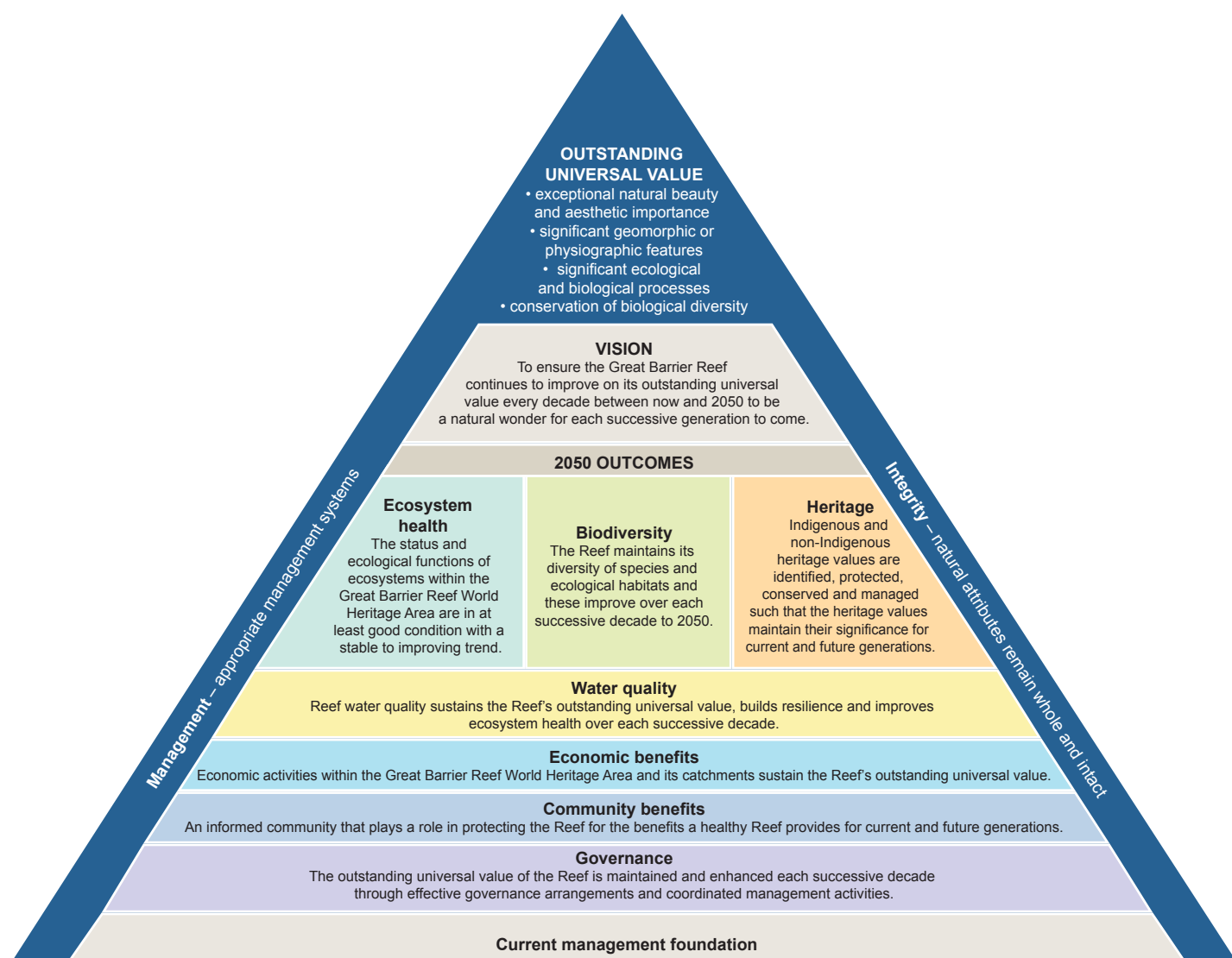


Figure 2: Reef 2050 Plan vision and outcomes

Development of this Guideline is required under governance **action** (GA7) which states “When reviewing relevant agreements, policies, plans, strategies and programs ensure they support Reef 2050’s outcome and targets.”

This action relates to the 2020 **target**: *The vision, outcomes, objectives and targets in this Plan are taken into account in relevant regulation, documents and strategies of all levels of government.*

This links to the 2035 **objective** *This Plan guides decisions made about the Reef by government, industry and the community and contributes to the 2050 Governance Outcome: The Outstanding Universal Value of the Reef is maintained and enhanced each successive decade through effective governance arrangements and coordinated management activities.*

Guiding Principles

The Reef 2050 Plan nominates **principles** for consideration in all decision making and these are outlined in Table 1A. The primary principles are:

- Maintaining and enhancing Outstanding Universal Value in every action.
- Basing decisions on the best available science.
- Delivering a net benefit to the ecosystem.
- Adopting a partnership approach to management.

Often the principles can be addressed by implementing adopted policies. Applying adopted policies fulsomely in decision making will ensure delivery of the relevant principle in the Reef 2050 Plan.

For other principles, there are good practice guidelines such as the Queensland Government’s community engagement guide, which provide guidance for improving community engagement and engaging with specific community groups i.e. rural and regional communities. Using these approaches incorporates the principles through adoption of good practice methods.

There are several principles, such as Ecologically Sustainable Development, which require separate consideration in decision making and are also stated in various Queensland Government Acts. For example, the *Sustainable Planning Act 2009*, the *Environmental Protection Act 1994*, the *Nature Conservation Act 1992* and the *Water Act 2000*.

Table 1: How to reflect the principles in decisions

| Reef 2050 Plan Principle* | Incorporation into decisions |
|---|--|
| Maintaining and enhancing OUV in every action | |
| Protecting the Outstanding Universal Value of the world heritage area is the prime consideration when planning development and management decisions are made. | Approaches to understanding and protecting the OUV of the GBR WHA [as established in the EPBC Act referral guidelines for the Outstanding Universal Value of the Great Barrier Reef World Heritage Area used and documented by decision makers. |
| Economic growth is sustainable and consistent with protecting OUV. | |
| Values and ecological processes in poor condition are restored and values and ecological processes in good condition are maintained. | |
| Basing decisions on the best available science | |
| Decisions are based on the full range of knowledge, including scientific understanding, Traditional Owner and community knowledge. | Decision making is inclusive with appropriate community consultation. Best available science considered and used. |
| Decisions take into consideration information on the current and emerging risks associated with climate change. | Climate change risks considered and documented in decision making; regular reviews of previous decisions undertaken in the light of new information to improve resilience of the GBRWHA. |
| Management is adaptive and continually improving, informed by the outcomes of monitoring programs. | Outputs and directions from monitoring programs such as GBRMPA's marine monitoring program, Paddock to Reef, and, as it is developed, the Integrated Monitoring and Reporting Program, are actively incorporated in developing and reviewing relevant decisions and are being reported as a consideration in the decision. |
| Delivering a net benefit to the ecosystem | |
| Decisions are underpinned by the principles of ESD, including the precautionary principle | Decisions document consideration of Ecologically Sustainable Development, as required under relevant legislation. |
| Impacts are avoided and residual impact mitigated. | Relevant agreements policies, plans, strategies and programs demonstrate avoidance of impacts, with mitigation where avoidance not possible. Impacts are managed in line with the mitigation hierarchy, and offset in accordance with existing guidelines, for example, the QLD Environmental Offsets Act and the EPBC Act Offsets Policy. |
| Offsets are considered only where impacts cannot be avoided or mitigated. | |
| Actions that restore ecosystem health and resilience—delivering an overall improvement in the Reef's condition—are fostered. | |
| Adopting a partnership approach to management | |
| Governance arrangements are transparent and accountable. | Decision making follows legislative and Intergovernmental Agreement on the GBR requirements for public consultation and accountability. Policies, plans, strategies and programs are developed collaboratively and written to be accessible and understandable by being practical, clear and user-friendly. |
| Decisions continue to support a wide range of opportunities for sustainable economic, social, and cultural activities including traditional use. | Potential economic, social and cultural impacts and opportunities of new funding programs or policies considered and documented during design/development according to requirements of relevant legislation. |
| Management is cooperative, fostering stewardship and strong community support. | |
| Innovation in management is fostered. | Undertaking regular reviews of management effectiveness incorporating opportunities for innovation (e.g. Outlook Report). |

**Principles in decision making are extracted from the Reef 2050 Plan verbatim*

STEP 1: DETERMINING WHETHER THE GUIDELINE APPLIES TO YOU

Understanding and implementing the Reef 2050 Plan is a collective responsibility.

For the purpose of the Guideline, decision makers are those people and organisations—including government agencies, communities, land managers, industry and Traditional Owners—making decisions with implications for the Outstanding Universal Value of the Great Barrier Reef World Heritage Area (GBRWHA).

Applicable decisions not only include activities within the World Heritage Area; they also include activities along the coastline and in Reef catchments where they have the potential to impact on the GBRWHA. For example, decisions affecting land or water management within the Great Barrier Reef catchment can impact the GBRWHA by changing water quality entering the Reef.





Government agencies and authorities revising or preparing relevant agreements, policies, plans, strategies and programs, should apply this guideline, to the extent permissible under the enabling legislation, if their decision is likely to interact with the Outstanding Universal Value of the Great Barrier Reef World Heritage Area (see Appendix 2 for primary legislation). All decision makers will consider applicable legislation, policies and guidelines current at the time of their decision.

Table 2: Indicative types of decisions and decision makers

| Examples of types of decisions | Examples of who may be involved in making the decision |
|---|--|
| Developing or amending legislation or subordinate legislation * | AG/QG/LGs with community consultation |
| Developing policies and better guidance** | AG/QG/LGs/scientists with targeted community input; industry and companies with constituents |
| Designing and delivering programs** | AG/QG/LGs/NRM groups with targeted community input |
| Fostering improved practice** | Industry/NRM groups/LGs with government input/land managers |
| Building partnerships * | AG/QG/LGs/Traditional Owners/NGOs/industry |

* The Reef and OUV is one of a number of considerations in decision making;

** Responding to pressures on the Reef is the focus of these decisions and an opportunity to clearly demonstrate support for the Reef 2050 Plan.

Other decision makers, such as businesses, conservationists, infrastructure providers and developers, are encouraged to consider this Guideline when developing targeted guidance for the Reef, such as codes of practice or plans of management with their constituents. Researchers can also use the Reef 2050 Plan to better understand agreed priorities for the Reef and focus areas for improvement and measurement.

The Reef 2050 Plan may be used as a means for establishing common ground and building partnerships between multiple groups working on Reef issues, such as with Traditional Owners. This Guideline can assist those developing partnerships to identify relevant targets, objectives and outcomes related to building partnerships to protect the values of the Great Barrier Reef.

And most of all there is an opportunity for everyone involved with the Reef to actively reflect Reef 2050 Plan targets and objectives in their decisions.

STEP 2: IDENTIFY WHICH PRESSURE YOUR DECISION APPLIES TO AND WHETHER IT RELATES TO BUILDING PARTNERSHIPS

Broadly, the four main underlying pressures impacting on the health and resilience of the Reef's systems provide a clear focus for decision makers. The comprehensive strategic assessment and the Outlook Report 2014 found the four main pressures are:

- Climate change
- Land-based run-off
- Coastal land use change
- Direct use.

Table 3 illustrates the connectivity between the pressures and types of decisions being made to better manage impacts on the Reef. Impacts from the pressures are often the subject of decisions affecting the Reef, such as decisions about where activities can occur in zoning or management plans, how water quality from catchments can be improved, how marine debris can be reduced or how to engage Traditional Owners. Decision makers should consider how best to contribute to the Reef 2050 Plan when creating or revising the types of agreements, policies, plans, strategies and programs listed. These examples are indicative only and are not exhaustive.

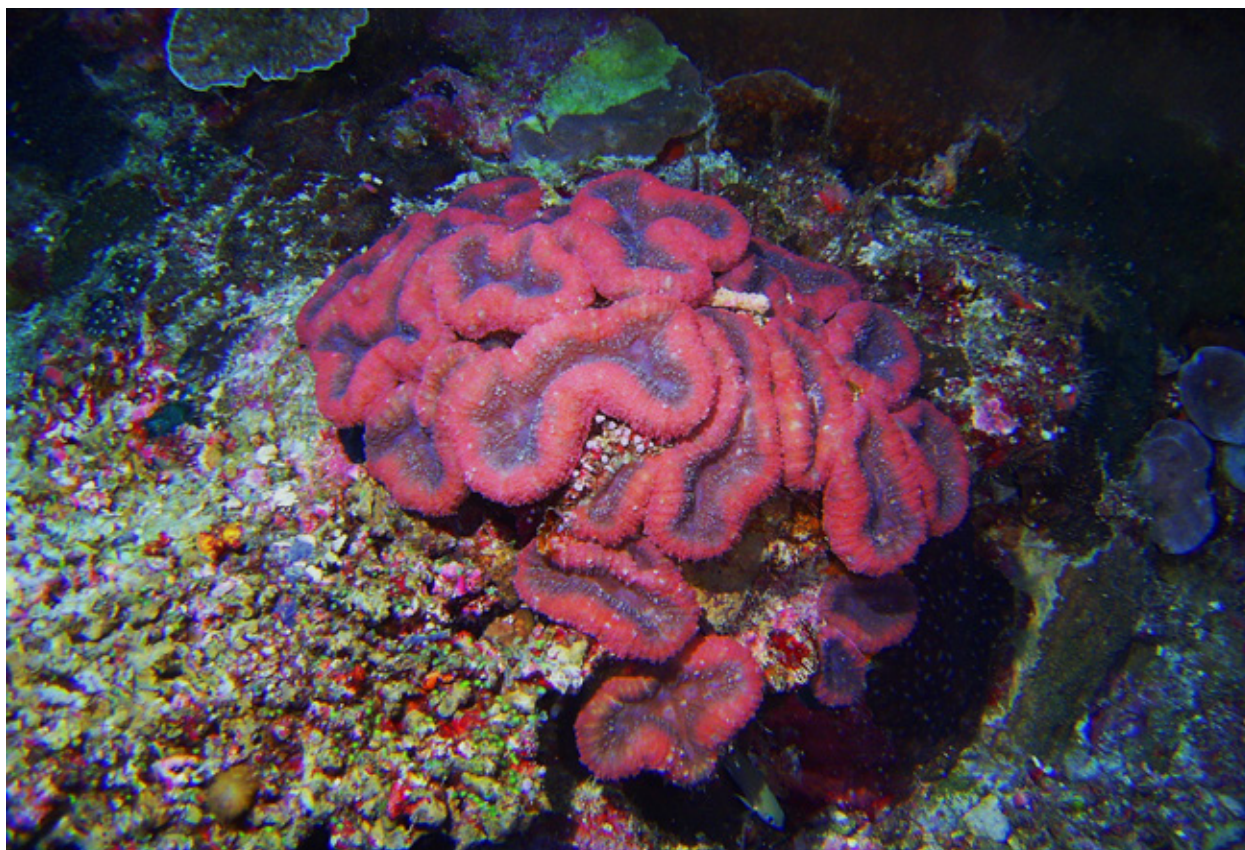


Photo: Cathy Zwick

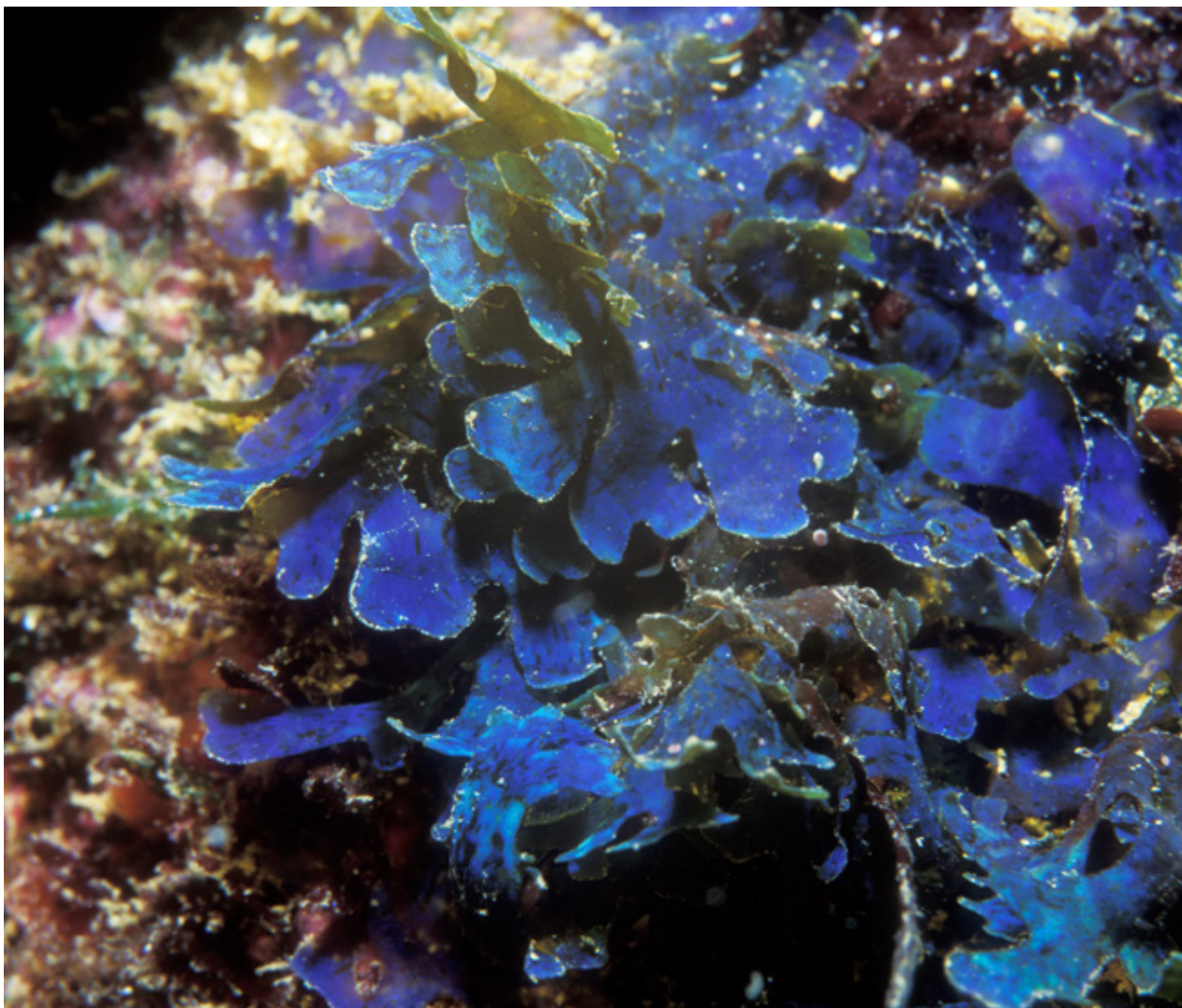
Table 3: Types of decisions to manage pressures

| Pressures and impacts on the Great Barrier Reef | | Examples of agreements, policies, plans, strategies and programs | |
|---|--|--|--|
| <p>Climate change—sea temperature increase; altered weather patterns (including episodic events such as cyclones); ocean acidification; and sea level rise. Future predictions indicate sea level rises and temperature increases will continue, the pH of the ocean will gradually decline and weather will be more severe. These changes are likely to significantly affect most components of the Reef's ecosystem and heritage values.</p> | | <p>Australian Government</p> <ul style="list-style-type: none"> National Climate Change Adaptation Research Facility support for coastal zone under climate change and sea level rise Research programs such as Australian Institute of Marine Science (AIMS) and National Environment Science Program (NESP) Recovery and threat abatement plans Delivering on international commitments <p>GBRMPA</p> <ul style="list-style-type: none"> Great Barrier Reef Adaptation Strategy and Action Plan 2012–2017 | <p>Queensland Government</p> <ul style="list-style-type: none"> Climate Adaptation Strategy Coastal planning laws <p>Industry and conservation organisation strategies</p> <ul style="list-style-type: none"> NRM regional climate change adaptation plans <p>GBR local governments</p> <ul style="list-style-type: none"> Coastal hazard management plans and adaptation strategies |
| | | <p>Australian Government</p> <ul style="list-style-type: none"> Reef Water Quality Protection Plan Reef Trust funding Reef Programme funding Water Quality Improvement Plans (WQIPs) (with NRM bodies) <p>Industry and conservation organisation strategies</p> <ul style="list-style-type: none"> Reef Water Quality Protection Plan Industry Best Management Practice programs WWF water quality improvement program | <p>Queensland Government</p> <ul style="list-style-type: none"> Reef Water Quality Protection Plan Queensland Government additional funding commitment for five years towards water quality initiatives, scientific research, and helping business transition to better environmental practices in the primary production and fishing industries to better protect the Reef Strengthening vegetation management laws <p>GBR local governments</p> <ul style="list-style-type: none"> Developing or revising stormwater management plans Reef Guardian Councils Action Plans |

| Pressures and impacts on the Great Barrier Reef | | Examples of agreements, policies, plans, strategies and programs | |
|---|--|--|--|
| <p>Coastal land use change—clearing and modifying coastal habitats and artificial barriers to flow. Changes to coastal habitats and reductions in connectivity as a result of land use change affect the Region's ecosystem.</p> | | <p>Australian Government</p> <ul style="list-style-type: none"> • OUV referral guidelines • Recovery and threat abatement plans • Reef Trust funding • Reef Programme funding • Plans and policies to deliver on international commitments eg World Heritage, Ramsar or biodiversity conventions <p>GBRMPA</p> <ul style="list-style-type: none"> • Developing approaches to use the coastal ecosystems studies (blue maps) to influence coastal development decisions <p>GBR local governments</p> <ul style="list-style-type: none"> • Development of planning schemes • Development of coastal/wetland/water way management strategies <p>Industry and conservation organisation strategies</p> <ul style="list-style-type: none"> • Port Master Plans and port development planning • Queensland Ecotourism Plan | <p>Queensland Government</p> <ul style="list-style-type: none"> • Additions to/management plans for the protected area estate and fish habitat areas • Development of ports legislation and initial master plans for ports • State development area planning schemes • Planning for coastal infrastructure provision • Development of infrastructure plans such as a main roads construction and maintenance strategy • Coastal planning laws • Revision of the State planning policy • Development and revision of regional plans • Review of LGA planning schemes • Revising the Wetlands and Back on Track (species prioritisation) programs |
| | | <p>Australian Government</p> <ul style="list-style-type: none"> • North East Shipping Management Plan • Crown-of-thorns starfish removal initiatives • Recovery and threat abatement plans <p>GBRMPA</p> <ul style="list-style-type: none"> • Dredge regulation banning capital dredge disposal in Commonwealth waters • Joint field management program • Great Barrier Reef Conservation Strategy • Zoning plans/plans of management • Compliance on illegal fishing | <p>Queensland Government</p> <ul style="list-style-type: none"> • Marine Park • Joint field management program • Developing dredge regulation banning capital dredge disposal in state waters • 'Sustainable Fishing' policy including the three new net-free fishing zones and associated industry assistance scheme for affected fishers <p>GBR local governments</p> <ul style="list-style-type: none"> • Reef Guardian councils' marine debris strategies <p>Industry and conservation organisation strategies</p> <ul style="list-style-type: none"> • Queensland Seafood Industry Environmental Management System • Queensland Ecotourism Plan |

Table 4: Types of decisions to build partnerships

| Building partnerships | Examples of agreements, policies, plans, strategies and programs | |
|---|---|--|
| <p>Opportunities for community based programs to improve Reef health</p> <p>Working with Traditional Owners to protect heritage or foster economic diversification.</p> | <p>Australian Government</p> <ul style="list-style-type: none"> • Crown of Thorns starfish removal initiatives • Developing or revising recovery and threat abatement plans <p>GBR local governments</p> <ul style="list-style-type: none"> • Reef Guardian councils' marine debris strategies • Developing strategies with industry and conservation organisations | <p>Queensland Government</p> <ul style="list-style-type: none"> • Joint field management program • Community action plans • Protected Area Management Plans <p>GBRMPA</p> <ul style="list-style-type: none"> • Joint Field Management Program • Developing approaches with Reef Advisory Committees • Developing or revising Reef Guardian programs with schools, fishers and farmers • Developing or revising Traditional Use of Marine Resources Agreements |



STEP 3: DETERMINING WHICH TARGETS AND OBJECTIVES ARE MOST RELEVANT

Prioritising the Outstanding Universal Value of the Great Barrier Reef World Heritage Area is fundamental to all decisions. In reality the extent to which the outcomes, objectives and targets of the Reef 2050 Plan will shape the final decision will be case specific, fit-for-purpose and optimise opportunities to emphasise the Reef 2050 Plan's objectives and targets.

Further analysis (Appendix 1—What targets and objectives to focus on?) highlights specific outcomes, objectives and targets most associated with managing each pressure and provides a useful focus for decision makers. Decision makers should examine Appendix 1 and actively apply the objectives and targets most related to their proposed decision.

Ecosystem health and coastal climate change adaptation planning

For example, if a local government was developing a coastal hazard adaptation strategy, it would need to consider and demonstrate how its plan would result in [EHT3] 'no net loss of the extent, and a net improvement in the condition, of natural wetlands and riparian vegetation that contribute to Reef resilience and ecosystem health' and [EHT4—this activity] 'is managed to reduce cumulative impacts and achieve a net benefit for the Reef'.

This could be achieved by prioritising the functionality of coastal wetlands in initial plan scoping and by restoring the extent and processes of wetlands in the implementation of an adaptation strategy.

The analysis in Appendix 1 illustrates that the greatest synergies between pressures and their consequent management decisions and outcomes, objectives and targets of the Reef 2050 Plan are:

Table 5: Reef 2050 themes most relevant in making decisions

| Pressures, impacts and partnerships | Reef 2050 themes of most relevance |
|-------------------------------------|--|
| Climate change adaptation | Ecosystem health, community benefits, biodiversity |
| Land-based runoff | Water quality |
| Coastal land use change | Ecosystem health, water quality, community benefits, economic benefits |
| Direct use | Biodiversity, community benefits, economic benefits |
| Building partnerships | Heritage, community benefits |

Often there will be multiple pressures involved. Decision makers will need to address targets and objectives relevant to their particular decision.

Coastal land use change includes a wide range of decisions and decision makers. The specific decision is highly dependent on the exact nature of the coastal land use pressure, the legislative power applicable, attributes of location and the coastal system where the precise change is proposed. For example, development of and consultation for a local government's coastal hazard adaptation strategy may need to examine ecosystem health and community benefits objectives and targets in detail to ensure the balance between the restoration of additional floodplain with community use and enjoyment.





STEP 4: ACKNOWLEDGING OTHER CONSIDERATIONS

Considering existing legislation and obligations

As with all decision making, alignment with existing legislation is required. A table of legislation specific to the protection of the Great Barrier Reef is supplied at Appendix 2 for reference.

Decision makers should also have regard to international obligations. Of particular relevance to the Great Barrier Reef are the World Heritage Convention and the Convention on Biological Diversity. Commonwealth legislation gives effect to these international agreements.

Considering specific Reef 2050 Actions

Several actions in the Reef 2050 Plan relate specifically to particular decision types, for example WQA12: 'Implement best practice stormwater management (e.g. erosion and sediment control, water sensitive urban design and capture of gross pollutants) for new development in coastal catchments'. There is an opportunity for decision makers to showcase how the Reef 2050 Plan helped to shape the decision and inform the plan, policy or program.

There are also actions that relate to new policies and plans. For example, 'EHA1: Acknowledge Traditional Owners in new and existing policy and plans'. This is an ongoing action and every relevant decision maker should make sure their policy or plans comply with this commitment.

Taking location into account

Location is important in the context of the specific condition and trend of attributes of OUV. For example, programs for the Reef Trust target the Burdekin and Wet Tropics catchments because they have relatively high loads of nutrients and pesticides. Improving water quality here also contributes to managing outbreaks of crown-of-thorns starfish.

It is necessary to identify the current condition and trend at a regional scale. The fundamental rationale is to protect what is in good condition and, restore what is in poor condition back to good. The effects of climate change, critical habitats such as coral reefs and seagrass meadows and supporting ecological processes such as connectivity, recruitment, nutrient cycling and sedimentation in the southern two thirds of the Reef are of particular importance.

Table 6: Desired outcome for condition and trend of Reef attributes

| Current condition | Desired outcome |
|--------------------|--|
| Very Good | The condition is maintained |
| Good | The condition is maintained and enhanced |
| Poor | The condition is restored to good |
| Very Poor | The condition is restored to good |
| Trend in condition | Desired outcome |
| Improving | The trend is maintained |
| Stable | The trend is maintained and improved |
| Deteriorating | The decline is halted and reversed |

Specifically for regional decision makers, consideration of the condition and trend of Reef attributes relevant to their area will provide a basis for policy development at the regional and local scale. Decision makers are referred to Chapter 7 of the Strategic Assessment for further information on condition and trend. Information is also available in the Outlook Report 2014.

Specific guidance

Additional notes providing specific guidance may be developed to provide more detailed direction for types of key decisions. This guidance will highlight how to reflect applicable outcomes, objectives and targets and provide direction to good practice examples for particular types of decisions. Specific guidance may also be developed to illustrate how regional context could be incorporated into a decision-making process.

An example of specific guidance targeted at local governments developing a Stormwater Management Plan is included in Appendix 4. Further Specific Guidance may be developed as the need arises or is requested by a government or industry sector.

ADAPTIVE MANAGEMENT

Review and renewal

The 2020 review of the Reef 2050 Plan will be primarily informed through the assessment of management effectiveness in the 2019 Outlook Report which will be based on information gained through the Integrated Monitoring and Reporting Program². Reporting on active implementation of the Reef 2050 Plan, including this Guideline will be a key input to the assessment of management effectiveness to inform this adaptive management cycle.

Decision makers are encouraged to document how their decisions contribute towards the targets and objectives of the Reef 2050 Plan in the monitoring and evaluation questionnaire at Appendix 4. This information will be compiled and inform reviews of management effectiveness and highlight opportunities for improvements to this Guideline, and more broadly in Reef 2050 Plan and its implementation.

To ensure this Guideline is useful and effective for decision makers, and kept up to date, the Guideline will also be reviewed in 2020.

In the future, as targeted information becomes available from the Integrated Monitoring and Reporting Program, there will be opportunities to improve and review other plans, policies and program. This will improve the quality and focus of decisions affecting the Reef and its values.



Photo: David Harasti

² The Reef Integrated Reporting and Monitoring Program is under development by GBRMPA and is expected to be fully operational by 2019, with information becoming progressively available from 2017.



APPENDIX 1: WHAT TARGETS AND OBJECTIVES TO FOCUS ON?

This appendix presents analysis of the question: when making decisions to manage or respond to a particular pressure and/or build partnerships, **which objectives and targets will most influence the nature and substance of the decision?**

Decision makers should examine this appendix and actively reflect the objectives and targets **most likely** to influence the nature and substance of their decision.

Often there will be multiple pressures involved, combined with opportunities to build partnerships. Decision makers will need to address the targets and objectives of relevance to their particular decision by ensuring those with the most influence are applied appropriately in their agreements, policies, programs or partnerships. Each application will be ‘fit for purpose’ and documented (see Appendix 4).

Effects of climate change are system wide and therefore can be seen to influence the vast majority of the targets and objectives in the Reef 2050 Plan. Similarly, opportunities to build partnerships are present in the delivery of any targets and objectives. To provide practical and meaningful advice to decision makers, the objectives and targets with the most relevance to a particular decision are defined.



Legend: [empty] minimal influence; / some influence; // moderate influence; /// most influence on the nature and substance of the decision.

Ecosystem health

| Ecosystem health outcome | | | | | | |
|--|--|-----------------------------|-------------------|-------------------------|------------|-----------------------|
| The status and ecological functions of ecosystems within the Great Barrier Reef World Heritage Area are in at least good condition with a stable to improving trend. | | | | | | |
| 2035 Objectives | | Climate change (Adaptation) | Land based runoff | Coastal land use change | Direct use | Building partnerships |
| EHO1 | The knowledge, innovations and practices of Traditional Owners relevant for conservation and cultural use of biocultural diversity are preserved and maintained. | / | / | / | // | // |
| EHO2 | The Great Barrier Reef World Heritage Area retains its integrity and system functions by maintaining and restoring the connectivity, resilience and condition of marine and coastal ecosystems. | // | // | // | / | / |
| EHO3 | Trends in the condition of key ecosystems including coral reefs, seagrass meadows, estuaries, islands, shoals and inter-reefal areas are improved over each successive decade. | | / | / | // | |
| 2020 Targets | | Climate change (Adaptation) | Land based runoff | Coastal land use change | Direct use | Building partnerships |
| EHT1 | Traditional Owners have developed Indigenous Ecological Knowledge Management Systems for collecting, handling and sharing culturally sensitive information, and its integration in decision making. | / | / | / | / | // |
| EHT2 | The number of agreements with Traditional Owners addressing management of ecosystems within their traditional estates is increased. | | / | / | / | /// |
| EHT3 | There is no net loss of the extent, and a net improvement in the condition, of natural wetlands and riparian vegetation that contribute to Reef resilience and ecosystem health. | /// | / | /// | | |
| EHT4 | Key direct human-related activities are managed to reduce cumulative impacts and achieve a net benefit for the Reef. | / | // | // | // | / |
| EHT5 | Condition and resilience indicators for coral reefs, seagrass meadows, islands, estuaries, shoals and inter-reefal shelf habitats are on a trajectory towards at least good condition at local, regional and Reef-wide scales. | / | / | / | // | |

Legend: [empty] minimal influence; / some influence; // moderate influence; /// most influence on the nature and substance of the decision.

Biodiversity

| Biodiversity outcome | | | | | | |
|--|--|-----------------------------|-------------------|-------------------------|------------|-----------------------|
| The Reef maintains its diversity of species and ecological habitats in at least a good condition with a stable to improving trend. | | | | | | |
| 2035 Objectives | | Climate change (Adaptation) | Land based runoff | Coastal land use change | Direct use | Building partnerships |
| BO1 | Traditional Owners are engaged and participate in and manage the conservation and ecologically sustainable use of cultural keystone species and bio-cultural resources. | / | | / | // | // |
| BO2 | The survival and conservation status of listed species within the World Heritage Area is promoted and enhanced. | / | / | / | / | |
| BO3 | Trends in populations of indicator species across their natural range are stable or increasing. | // | // | / | // | |
| BO4 | Indices of biodiversity are in good or very good condition at Reef-wide and regional scales. | // | // | // | // | |
| BO5 | Reef habitats and ecosystems are managed to sustain healthy and diverse populations of indicator species across their natural range. | // | // | // | /// | / |
| 2020 Targets | | Climate change (Adaptation) | Land based runoff | Coastal land use change | Direct use | Building partnerships |
| BT1 | Customary use of biological resources, in accordance with traditional cultural practices that are compatible with conservation or cultural use requirements, are formally recognised and adopted in management arrangements. | / | | / | / | / |
| BT2 | Trends in the availability and condition of habitat for species of conservation concern are improving at Reef-wide and regionally relevant scales. | / | / | / | // | |
| BT3 | Incidental catch of species of conservation concern is declining. | | | | /// | / |
| BT4 | Populations of Australian humpback and snubfin dolphins, dugong, and loggerhead, green, hawksbill and flatback turtles are stable or increasing at Reef-wide and regionally relevant scales. | | | | // | |
| BT5 | Trends in populations of key indicator species and habitat condition are stable or improving at Reef-wide and regionally relevant scales. | / | / | / | // | |

Legend: [empty] minimal influence; / some influence; // moderate influence; /// most influence on the nature and substance of the decision.

Heritage

| Heritage outcome | | | | | | |
|---|---|----|---|-------------------------|----|------------------------------|
| Indigenous and non-Indigenous heritage values are identified, documented and protected in decision-making and planning processes. | | | | | | |
| 2035 Objectives | | | | | | |
| HO1 | Traditional Owners' cultural heritage rights and responsibilities are incorporated in all facets of management. | / | | Coastal land use change | / | Building partnerships // |
| HO2 | Indigenous and non-Indigenous heritage including natural, aesthetic, historic, scientific, and social values are identified, conserved and managed in partnership with the community. | / | / | Coastal land use change | // | Building partnerships /// |
| 2020 Targets | | | | | | |
| HT1 | New and effective cooperative management practices are developed for protection and conservation of Great Barrier Reef Indigenous and non-Indigenous heritage. | / | | Coastal land use change | / | Building partnerships /// |
| HT2 | Indigenous and non-Indigenous heritage values are identified, documented and protected in decision-making and planning processes. | // | / | Coastal land use change | // | Building partnerships / |
| HT3 | Partnerships between Traditional Owners and all stakeholders are increased to ensure key Reef heritage values are identified, documented, and monitored. | / | / | Coastal land use change | / | Building partnerships /// |

Legend: [empty] minimal influence; / some influence; // moderate influence; /// most influence on the nature and substance of the decision.

Water quality

| Water quality outcome | | | | | | |
|---|---|-----------------------------|-------------------|-------------------------|------------|-----------------------|
| Reef water quality sustains the Outstanding Universal Value, builds resilience and improves ecosystem health over each successive decade. | | | | | | |
| 2035 Objectives | | Climate change (Adaptation) | Land based runoff | Coastal land use change | Direct use | Building partnerships |
| WQO1 | Over successive decades the quality of water entering the Reef from broadscale land use has no detrimental impact on the health and resilience of the Great Barrier Reef. | / | /// | / | | // |
| WQO2 | Over successive decades the quality of water in or entering the Reef from all sources including industrial, aquaculture, port (including dredging), urban waste and stormwater sources has no detrimental impact on the health and resilience of the Great Barrier Reef. | / | /// | // | | // |
| 2020 Targets | | Climate change (Adaptation) | Land based runoff | Coastal land use change | Direct use | Building partnerships |
| WQT1 | <p>By 2018:</p> <p>At least a 50 per cent reduction in anthropogenic end-of-catchment dissolved inorganic nitrogen loads in priority areas, on the way to achieving up to an 80 per cent reduction in nitrogen by 2025</p> <p>At least a 20 per cent reduction in anthropogenic end-of-catchment loads of sediment in priority areas, on the way to achieving up to a 50 per cent reduction by 2025</p> <p>At least a 20 per cent reduction in anthropogenic end-of-catchment loads of particulate nutrients in priority areas</p> <p>At least a 60 per cent reduction in end-of-catchment pesticide loads in priority areas.</p> | | /// | // | | // |

Legend: [empty] minimal influence; / some influence; // moderate influence; /// most influence on the nature and substance of the decision.

Water quality

| | | | | | | |
|------|--|---|-----|-----|---|-----|
| WQT2 | By 2018: 90 per cent of sugarcane, horticulture, cropping and grazing lands are managed using best management practice systems (soil, nutrient and pesticides) in priority areas Minimum 70 per cent late dry season groundcover on grazing lands The extent of riparian vegetation is increased There is no net loss of the extent, and an improvement in the ecological processes and environmental values, of natural wetlands. | / | /// | // | | /// |
| WQT3 | By 2020, Reef-wide and locally relevant water quality targets are in place for urban, industrial, aquaculture and port activities and monitoring shows a stable or improving trend. | / | / | /// | / | / |
| WQT4 | Water quality in the Great Barrier Reef has a stable or positive trend. | / | /// | // | | // |
| WQT5 | Traditional Owners, industry and community are engaged in on-ground water quality improvement and monitoring. | | // | // | | // |

Legend: [empty] minimal influence; / some influence; // moderate influence; /// most influence on the nature and substance of the decision.

Community benefits

| Community benefits outcome | | | | | | |
|---|--|-----------------------------|-------------------|-------------------------|------------|-----------------------|
| An informed community that plays a role in protecting the Reef for the benefits a healthy Reef provides for current and future generations. | | | | | | |
| 2035 Objectives | | Climate change (Adaptation) | Land based runoff | Coastal land use change | Direct use | Building partnerships |
| CBO1 | The rights of Traditional Owners to derive benefits from the conservation and cultural use of biological resources are recognised. | | | / | / | // |
| CBO2 | A healthy Reef that supports sustainable lifestyles and livelihoods, and provides coastal communities with protection from extreme weather events. | // | / | // | / | / |
| CBO3 | Community benefits provided by the Reef, including its superlative natural beauty and the sense of place, are maintained for current and future generations. | / | // | // | / | / |
| CBO4 | Local, regional and Reef-wide community benefits are understood and the community is actively engaged in managing Reef activities. | / | / | / | / | /// |
| 2020 Targets | | Climate change (Adaptation) | Land based runoff | Coastal land use change | Direct use | Building partnerships |
| CBT1 | The number of benefit-sharing initiatives and agreements with Traditional Owners is increased. | | | / | / | /// |
| CBT2 | Community benefit values have been identified and are considered in decision making. | / | / | // | / | / |
| CBT3 | Community participation in stewardship actions to improve Reef health and resilience continues to grow. | | // | / | / | /// |
| CBT4 | Community benefit values for Great Barrier Reef coastal ecosystems are being monitored and show a positive trend. | // | / | // | / | / |

Economic benefits

| Economic benefits outcome | | | | | | |
|---|---|-----------------------------|-------------------|-------------------------|------------|-----------------------|
| Economic activities within the Great Barrier Reef World Heritage Area and its catchments sustain the Reef's Outstanding Universal Value | | | | | | |
| 2035 Objectives | | Climate change (Adaptation) | Land based runoff | Coastal land use change | Direct use | Building partnerships |
| EBO1 | Traditional Owners derive economic benefits from conservation and sustainable use of biological resources. | | | | / | // |
| EBO2 | Protecting the Reef's Outstanding Universal Value is embedded within decision making with impacts first avoided, then mitigated and then, as a final consideration, any residual impacts are offset to achieve a net environmental benefit. | // | // | /// | /// | |
| EBO3 | Reef-associated industries are planned and managed in such a way as to protect the Reef's Outstanding Universal Value and are sustainable, productive and profitable. | | | // | // | // |
| EBO4 | Reef-dependent industries are productive and profitable based on a healthy Reef and are ecologically sustainable. | | | // | // | / |
| 2020 Targets | | Climate change (Adaptation) | Land based runoff | Coastal land use change | Direct use | Building partnerships |
| EBT1 | There is an increase in the number of Traditional Owner service providers and viable businesses. | | | | / | / |
| EBT2 | The number of employment opportunities for Traditional Owners in sea country management and Reef-based industries is increased. | / | | | // | // |
| EBT3 | Cumulative impacts on the Reef from human activities are understood and measures to ensure a net environmental benefit approach for the Reef are in place. | // | // | // | // | / |
| EBT4 | Shipping within the Reef is safe, risks are minimised and incidents are reduced to as close to zero as possible. | | | | /// | |
| EBT5 | The relationship between Reef health and the viability of Reef-dependent industries (e.g. tourism and fishing) is understood and considered in planning and development decisions. | | | | // | // |
| EBT6 | Economic indicators are included in the Integrated Monitoring and Reporting Program. | | / | | / | |

APPENDIX 2: PRIMARY LEGISLATION APPLICABLE TO THE GREAT BARRIER REEF

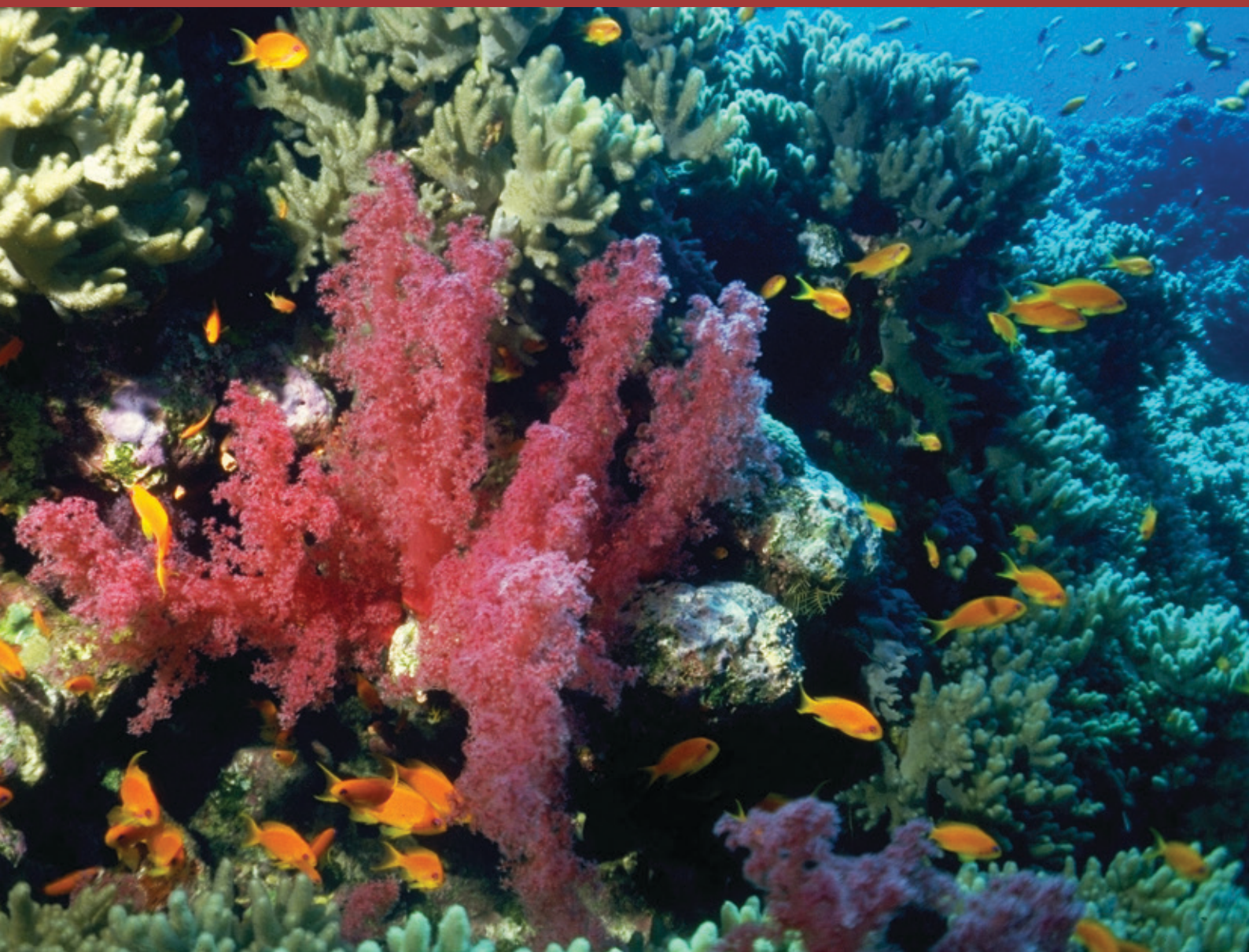
The table of Commonwealth and Queensland legislation below is reproduced from the Reef 2050 Plan and was current in late 2014. This legislation is the basis for many decisions about revising or developing new plans, agreements, policies, strategies or programs and applying this guideline.

| | Coastal and catchment area | Marine |
|-----------------------|--|--|
| Australian Government | | <i>Great Barrier Reef Marine Park Act 1975</i> |
| | | <i>Historic Shipwrecks Act 1976</i> |
| | | <i>Environment Protection (Sea Dumping) Act 1981</i> |
| | | <i>Sea Installations Act 1987</i> |
| | | <i>Protection of the Sea (Prevention of Pollution from Ships) Act 1983</i> |
| | <i>Native Title Act 1993</i> | |
| | <i>Environment Protection and Biodiversity Conservation Act 1999</i> | |
| Queensland Government | <i>Vegetation Management Act 1999</i> | |
| | <i>Water Act 2000</i> | <i>Marine Parks Act 2004</i> |
| | <i>Wet Tropics World Heritage Protection and Management Act 1993</i> | <i>Maritime Safety Queensland Act 2002</i> |
| | <i>Local Government Act 2009</i> | <i>Transport Operations (Marine Pollution) Act 1995</i> |
| | <i>Chemical Usage (Agricultural and Veterinary) Control Act 1988</i> | |
| | <i>Forestry Act 1959</i> | |
| | <i>Land Protection (Pest and Stock Route) Act 2002</i> | |
| | <i>Fisheries Act 1994</i> | |
| | <i>Coastal Protection and Management Act 1995</i> | |
| | <i>Economic Development Act 2012</i> | |
| | <i>Environmental Protection Act 1994</i> | |
| | <i>Nature Conservation Act 1992</i> | |
| | <i>State Development and Public Works Organisation Act 1971</i> | |
| | <i>Sustainable Planning Act 2009</i> | |
| | <i>Transport Infrastructure Act 1994</i> | |
| | <i>Aboriginal Cultural Heritage Act 2003</i> | |
| | <i>Torres Strait Islander Cultural Heritage Act 2003</i> | |
| | <i>Sustainable Ports Development Act 2015</i> | |
| | <i>Biosecurity Act 2014</i> | |
| | <i>Queensland Heritage Act 1992</i> | |
| | <i>Recreation Areas Management Act 2006</i> | |

Coastline

Three nautical mile limit

Great Barrier Reef World Heritage Area





APPENDIX 3: GLOSSARY OF TERMS

Action: includes a project, a development, an undertaking, an activity or series of activities, and an alteration to any of these things. (*Adapted from EPBC Act*). Within the Reef 2050 Plan actions are new activities outlined in the Reef 2050 Plan which combined with foundational activities, will contribute to achieving the targets for the specific theme.

AG: Australian Government

AIMS: Australian Institute of Marine Science

Biodiversity/Biological Diversity: the variability among living organisms from all sources including inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems. (*Convention on Biodiversity— Article 2. Use of terms*)

Condition: the ‘health’ of a species or ecosystem which includes factors such as the level of disturbance from a natural state, population size, genetic diversity, and interaction with invasive species and diseases. (*State of the Environment Reporting, Department of the Environment*)

Good condition: a species or ecosystem would generally be considered to be in good condition when the level of exposure to anthropogenic pressures has little effect on its status and resilience. (*adapted from Great Barrier Reef Outlook Report 2014*):

For habitats, ‘good’ means some degradation or alteration may exist in some small areas, leading to minimal degradation but no persistent, substantial effects on populations of dependent species.

For species, ‘good’ means most populations of species show no significant deterioration as a result of human activities or declining environmental conditions.

For processes, ‘good’ means that some changes in processes as a result of human activities may have occurred in some areas, but these are not to the extent that they are significantly affecting ecosystem functions.

Connectivity: the extent to which a species or population can move among landscape elements in a mosaic of habitat types. (*Reef Plan 2050*)

Cumulative impact: the impact on the environment resulting from the effects of one or more impacts, and the interactions between those impacts, added to other past, present, and reasonably foreseeable future pressures. (*GBR Region Program Report*)

Decisions: in the context of this Guideline are developing or revising relevant agreements, policies, plans, strategies and programs.

Ecosystem: a dynamic complex of plant, animal and microorganism communities and their non-living environment interacting as a functional unit. (*Biodiversity Convention; EPBC Act*)

Ecosystem functions: the interactions between organisms and physical environment, such as nutrient cycling, soil development and water budgeting. (*Great Barrier Reef Outlook Report 2014*)

Environmental offsets: measures to compensate for the adverse impacts of an action on the environment. More specifically, offsets are measures to compensate for environmental impacts that cannot be adequately reduced through avoidance or mitigation. Offsets do not reduce the impacts of an action. Instead they provide environmental benefits to counterbalance the impacts that remain after avoidance and mitigation measures. These remaining impacts are termed 'residual impacts'. (*Australian Government Environmental Offsets Policy 2012*)

EPBC Act: Environment Protection and Biodiversity Conservation Act 1999

ESD: ecologically sustainable development: conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased. (*National Strategy for Ecologically Sustainable Development—Commonwealth Department of the Environment*)

Foundational Activities: existing regulatory, planning, field management and program responses already underway.

Governance: establishment of policies, and continuous monitoring of their proper implementation, by the members of the governing body of an organisation.

GBR: Great Barrier Reef (the Reef): in this document the Great Barrier Reef or the Reef, is taken to mean the Great Barrier Reef World Heritage Area (*Reef 2050 Plan*)

Greenfield: land that has never been used, where there is no need to demolish or rebuild any existing structures.

Heritage value: a place's natural and cultural environment having aesthetic, historic, scientific or social significance, or other significance, for current and future generations of Australians. (*EPBC Act and GBRMP Act*)

Indicators: physical, chemical, biological or socio-economic measures that best represent the key elements of a complex ecosystem or an environmental issue. (*Reef 2050 Plan*)

Indigenous Ecological Knowledge Management Systems: also Traditional Ecological Knowledge – represents experience acquired over thousands of years of direct human contact with the environment; the study of systems of knowledge developed by a given culture to classify the objects, activities and events of its universe.

Indigenous heritage: includes all places that are part of Aboriginal and Torres Strait Islander peoples' spiritual links to the land or which tell the story of Indigenous peoples from time immemorial to the present. It can include sacred sites, ceremonial sites like bora rings and rock art, fish traps, burials, middens, scarred trees, camp sites and semi/permanent settlements. (*Source: Great Barrier Reef Marine Park Authority Heritage Strategy 2005*)

Integrity: for World Heritage properties, integrity relates to the 'wholeness and intactness' of the property and how it conveys the values it holds. Integrity can also relate to the size of the property (sufficient size to continue to represent the values) and to any threats affecting the property. (*Reef 2050 Plan*)

LGA: Local Government Association

Mitigation hierarchy: the mitigation hierarchy comprises:

- a. **Avoidance:** measures taken to avoid creating impacts from the outset, such as careful spatial or temporal placement of elements of infrastructure, in order to completely avoid impacts on certain components of biodiversity. This results in a change to a 'business as usual' approach.
- b. **Minimisation:** measures taken to reduce the duration, intensity and / or extent of impacts that cannot be completely avoided, as far as is practically feasible.
- c. **Rehabilitation / restoration:** measures taken to rehabilitate degraded ecosystems or restore cleared ecosystems following exposure to impacts that cannot be completely avoided and / or minimised. (*IUCN 2015 draft Biodiversity Offset Policy*)

Mitigation measures: the full set of activities covering the entire mitigation hierarchy. (*IUCN 2015 draft Biodiversity Offset Policy*)

MNES: Matters of National Environmental Significance: those matters protected under the *Environment Protection and Biodiversity Conservation Act 1999*. (*Reef 2050 Plan*)

NESP: National Environment Science Programme

Net benefit: the purpose of net benefits is to enhance the condition of matters of national environmental significance, including the Reef's Outstanding Universal Value. While offsets are focused on addressing residual impacts associated with development actions, net benefits are focused on delivering actions (above and beyond offset actions) which will restore or improve the Great Barrier Reef to a good condition. (*Reef 2050 Plan*)

NRM: Natural Resource Management

Objective: within the context of the Reef 2050 Plan, a medium-term goal that will contribute to achieving the outcome for each theme and vision for the Reef by 2050.

Offsets: measures to compensate for environmental impacts that cannot be adequately reduced through avoidance or mitigation. (*Australian Government Environmental Offsets Policy 2012*)

Outcome: within the context of this Plan, an overall statement of what is expected to be achieved for each theme by 2050, which will collectively contribute to achieving the vision for the Reef. (*Reef 2050 Plan*)

OUV: Outstanding Universal Value: cultural and/or natural significance which is so exceptional as to transcend national boundaries and to be of common importance for present and future generations of all humanity. (*Reef 2050 Plan*)

Precautionary principle: the principle that lack of full scientific certainty should not be used as a reason for postponing a measure to prevent degradation of the environment where there are threats of serious or irreversible environmental damage. (*EPBC Act and GBRMP Act*)

Pressure (Threats): an activity or group of activities that cause an impact on a value. (*GBR Region Program Report*)

Principle: a fundamental truth or proposition that serves as the foundation for a system of belief or behavior for a chain of reasoning; an accepted or professed rule of action or conduct; a fundamental, primary or general law or truth from which others are derived.

Outcomes framework: a useful planning, communication and evaluation tool that articulates what the program is, what it expects to do, and how success will be measured. It is useful for checking the design for adequacy of cause and effect, and the reasons or assumptions behind this. (GHD)

QG: Queensland Government

Reef-associated industry: industries located in the Reef or its catchments that are not directly dependent on the Reef for their economic sustainability, for example, ports, construction, agriculture, forestry, shipping and mining.

Reef-dependent industry: industries whose economic benefit is derived from the Reef's natural resources, either through extraction of those resources or through tourism and recreation focused on its ecosystem and heritage values (Source: *Great Barrier Reef Outlook Report 2014*).

Reef Trust: a joint Australian and Queensland government program to deliver funding to address key threats to the Reef such as nutrient run-off, crown-of-thorns starfish and species protection. (*Adapted from Reef Trust Discussion Paper, Commonwealth Department of the Environment*)

Residual Impacts: the adverse impacts of an action on the environment that cannot be adequately reduced through avoidance or mitigation. (*Australian Government Environmental Offsets Policy 2012*)

Resilience: the capacity of an ecosystem to recover from disturbance or withstand ongoing pressures. (*GBR Region Program Report*)

Riparian: relating to, or situated on, the bed and banks of a river or watercourse.

SMART: Specific, Measurable, Achievable, Realistic, Time-bound.

Strategic assessment: under the EPBC Act 1999, an assessment of the impacts of implementing a plan, policy or programme. The process enables the community, governments, businesses and industry to achieve both conservation and planning outcomes at a much larger scale than can be reached through project-by-project assessments. (*GBR Strategic Assessment 2014*)

Stewardship: the responsible overseeing and protection of something considered worth caring for and preserving.

Targets: within the context of the Reef 2050 Plan, targets are short-term goals for 2020 that will contribute to achieving the objectives for each theme.

TO: Traditional Owner: An Indigenous person recognised in the Indigenous community or by a relevant representative Aboriginal or Torres Strait Islander body as having spiritual or cultural affiliations with a site or area in the Marine Park, or as holding native title in relation to that site or area; and who is entitled to undertake activities under Aboriginal or Torres Strait Islander custom or tradition in that site or area. *(GBR Region Program Report)*

Vision: within the context of the Reef 2050 Plan, the vision is the common goal that describes what Australians, as custodians for the international community, want the future of the Reef to be. The vision for the Reef will be achieved by 2050 through delivery of the actions, targets, objectives and outcomes of the Plan. *(Reef 2050 Plan)*

Water quality: refers to the chemical, physical, biological and radiological characteristics of water. It is a measure of the condition of water relative to the requirements of one or more biotic species and/or to any human need or purpose. *(Reef 2050 Plan)*

WHA: World Heritage Area: Great Barrier Reef World Heritage Area. *(Reef 2050 Plan)*

WQIP: Water Quality Improvement Plans: designed to identify the main issues that impact aquatic ecosystems from land-based activities and prioritise management actions to reduce the discharge of pollutants within a natural resource management region. Water quality improvement plans are non-legislative regional planning instruments and can inform the development of Healthy Waters Management Plans. *(Reef 2050 Plan)*

WWF: World Wildlife Fund



APPENDIX 4: MONITORING AND EVALUATION QUESTIONNAIRE

Decision makers are encouraged to document how their decisions contribute towards the targets and objectives of the Reef 2050 Plan. The information gathered from this questionnaire will contribute to evaluating this Guideline by the Department of the Environment (the Department). Information from the questionnaire results may also assist the Department and its Reef 2050 partners to better understand how Reef 2050 is being implemented. Please submit the completed form to: reef2050@environment.gov.au

Background information

About the decision maker

1. Who is the decision maker? [highlight one]

| | | | | | |
|-----------------------------------|---------------------|-----------------------------|------|----------------------------|-----------------|
| Commonwealth/ state government | Local government | Private sector/ industry | ENGO | Indigenous organisation | Other: _____ |
|-----------------------------------|---------------------|-----------------------------|------|----------------------------|-----------------|

2. Please provide primary contact details³:

| | | | |
|-------|-----------|--------|--------|
| Name: | Position: | Email: | Phone: |
|-------|-----------|--------|--------|

Type of decision

3. What is the type of decision? [highlight one]

| | | | | | |
|-----------|--------|------|---------|-------------|-----------------|
| Agreement | Policy | Plan | Program | Partnership | Other: _____ |
|-----------|--------|------|---------|-------------|-----------------|

³ All personal information will be managed in accordance with the Department's Privacy Policy which is available at www.environment.gov.au/privacy-policy. Providing your personal information will enable the Department to contact you to clarify information provided in this form. In accordance with its Privacy Policy and to assist the Department in its implementation of the Plan, your personal details may be disclosed to other government agencies, including the Great Barrier Marine Park Authority and the Queensland Office of the Great Barrier Reef (Reef 2050 Plan delivery partners) in order to assist in analysis and reporting on the Plan.

4. What is the name of the decision?

5. Please provide a general description of the decision:

[please include a weblink to documentation/further information if available]

Relevant pressure(s) identified

6. Which pressures or themes does the decision relate to? [highlight all relevant pressure/s]

| | | | | |
|-----------------------|----------------|--------------------|-------------------------|------------|
| Building Partnerships | Climate Change | Land-based run-off | Coastal land use change | Direct use |
|-----------------------|----------------|--------------------|-------------------------|------------|

7. Briefly describe how the identified pressure/s relates to your decision?

Consideration of the Reef 2050 Plan

Consideration of the targets and objectives

8. Which Reef 2050 Plan targets and objectives were identified as most relevant to your decision and how did they influence the review or development of the decision?

| Target/objective(s) | Incorporation into decision |
|--|-----------------------------|
| <i>[add additional rows as required]</i> | |
| | |

Taking other considerations into account:

9. Any comments/examples on how you have reflected the guiding principles in the decision?

10. How did you incorporate other relevant actions: e.g. How did you acknowledge Traditional Owners (Action EHA1)?

11. How did you take location into account in developing your decision?



SPECIFIC GUIDANCE: LOCAL GOVERNMENT STORM WATER MANAGEMENT PLAN

Introduction and background

While there is no requirement for local governments in Queensland to prepare a storm water management plan, councils along the Great Barrier Reef coast have a particular opportunity to ensure planning for storm water management supports the Reef 2050 Plan. This specific guidance has been developed to assist councils recognise how the Reef 2050 Plan can influence development and subsequent implementation of sustainable storm water management plans.

Key considerations for decision makers

This specific guidance is designed to be read in conjunction with the overarching Reef 2050 Policy Guideline for Decision Makers.

The Reef 2050 Plan background and key considerations for decision makers provide the basic foundation for this specific guidance. Important considerations include the World Heritage concept of Outstanding Universal Value, the outcomes framework of the Reef 2050 Plan and guiding principles for decision makers.

In particular, the guiding principles below should be actively considered when developing a storm water management plan:

- Maintain and enhance OUV in every action.
- Base decisions on the best available science.
- Deliver a net benefit to the ecosystem.
- Adopt a partnership approach to management.

Legislative framework for storm water management

Storm water management plans must take into account the Environment Protection Act 1994, the subordinate Environmental Protection (Water) Policy 2009 and The State Planning Policy (SPP) includes the state interest—water quality. Implementation of this state interest is supported by the accompanying SPP guideline for water quality. The Queensland Government advocates for best practice storm water management through the Queensland Urban Drainage Manual.

The Queensland Government encourages local governments to adopt an integrated approach to water management and develop integrated or total Water Cycle Management Plans including stormwater management.

This specific guidance has been developed to assist not only design engineers, but also strategic planners and operational works managers and persons who interpret design specifications to better understand how best to protect the Great Barrier Reef. In this context storm water management plans are considered broadly and:

- Cover all phases including design, construction, operation, rehabilitation and site closure
- Detail type, location, sequence and timing of measures and actions to effectively minimise erosion, manage flows and capture sediment
- Address prevention, reduction and treatment of contaminants.

The following Steps illustrate how the Reef 2050 Plan Policy Guideline for Decision Makers could assist Local Governments drafting or revising a storm water management plan protect the Great Barrier Reef and deliver on statutory responsibilities.

Step 1: Determine whether the Guideline applies to you

QUESTION: Are you developing or updating an agreement, policy, program or partnership that has implications for the Outstanding Universal Value of the Great Barrier Reef World Heritage Area?

RESPONSE: Yes. Developing or revising a storm water management plan and subsequent implementation through operational activities in Great Barrier Reef catchments may have direct implications for the Outstanding Universal Value of the GBRWHA.

In responding to this question, consider the scale and coverage of the plan, connectivity within the catchment and downstream values within the adjacent Great Barrier Reef. For example small upstream urban developments, employing best practice water sensitive urban design in a closed system should have limited impact on the values of the Great Barrier Reef. Alternatively an operational works program in a sensitive location, for example, next to a coastal wetland with connectivity through to the Reef, could have major impacts if not designed and implemented to best practice standards.

Step 2: Identify the pressure or theme the decision relates to

QUESTIONS: Does your decision address or influence the pressure of climate change, coastal land use change, direct use or land based runoff? Does your decision relate to building partnerships?

RESPONSE: While there are linkages between all the pressures with inherent opportunities to build better partnerships within the community, the primary pressure storm water management plans address is land based runoff.

Step 3: Determine which targets and objectives are most relevant

QUESTION: Which objectives and targets are most relevant to the pressure(s) or theme your decision relates to?

RESPONSE: The theme MOST relevant is Water Quality. The objectives and targets (from Appendix 1 of the Guideline) most likely to influence your decision are identified in the table below, along with a suggestion of how these targets and objectives could be reflected in developing a storm water management plan.

Table A: Objectives and targets that most influence development of storm water management plans

| Objective/Target | | How to reflect in a storm water management plan | Examples |
|---|---|---|--|
| Most Relevant 2035 Ecosystem Health Objectives | | | |
| EHO2 | The Great Barrier Reef World Heritage Area retains its integrity and system functions by maintaining and restoring the connectivity, resilience and condition of marine and coastal ecosystems. | Highlight and protect coastal ecosystems including looking for opportunities to provide a net benefit through restoring connectivity in key coastal systems and providing versatile places that enable safe, healthy inclusive and resilient communities. | http://elibrary.gbrmpa.gov.au/jspui/bitstream/11017/2899/2/Case_study_regional_planning_Baffle.pdf |
| Most Relevant 2035 Heritage Objectives | | | |
| HO2 | Indigenous and non-Indigenous heritage including natural, aesthetic, historic, scientific, and social values are identified, conserved and managed in partnership with the community. | <p>Protect heritage values in planning and undertaking storm water construction.</p> <p>Consult with Traditional Owners to identify values.</p> <p>Promote implementation partnerships.</p> | <p>If your storm water management plan refers to actions that may result in changes to heritage places, further information about what might need to be considered is available at www.qld.gov.au/environment/land/heritage/development/approvals</p> <p>If your storm water management plan refers to actions that may affect Aboriginal or Torres Strait Islander cultural heritage (including artefacts or sites), further information about what might need to be considered is available at: www.datsip.qld.gov.au/people-communities/aboriginal-and-torres-strait-islander-cultural-heritage</p> |

| Objective/Target | | How to reflect in a storm water management plan | Examples |
|---|--|--|---|
| Most Relevant 2035 Water Quality Objectives | | | |
| WQO2 | Over successive decades the quality of water in or entering the Reef from all sources including industrial, aquaculture, port (including dredging), urban waste and stormwater sources has no detrimental impact on the health and resilience of the Great Barrier Reef. | <p>Develop approaches to ensure water exiting scheme meets State water quality objectives.</p> <p>Ensure implementation of targeted Reef 2050 actions such as WQA12 :Implement best practice storm water management (e.g. erosion and sediment control, water sensitive urban design and capture of gross pollutants) for new development in coastal catchments.</p> | <p>The Environmental Protection Act 1994 and subordinate Environmental Protection (Water) Policy 2009 set the Water Quality Objectives (WQO) and Environmental Values (EVs) of waters in Queensland, which must be taken into account to inform environmental management decisions. http://www.ehp.qld.gov.au/water/policy/index.html</p> <p>The SPP outlines 16 state interests, including water quality. Policies around matters of state interest must be integrated into local government planning schemes. The SPP includes a Water Quality Code to define performance and outcomes standards that support WQO and EVs. http://www.statedevelopment.qld.gov.au/resources/policy/state-planning/state-planning-policy-jul-2014.pdf</p> <p>And http://www.statedevelopment.qld.gov.au/resources/guideline/spp/spp-guideline-water-quality.pdf</p> <p>Guidelines to develop Total Water Cycle Management Plans (TWCP), including stormwater management, can be found at http://waterbydesign.com.au/twcm/. Although the document was developed for South east Queensland, it offers a framework for developing TWCPs in reef catchments.</p> |

| Objective/Target | | How to reflect in a storm water management plan | Examples |
|--|---|---|---|
| Most Relevant 2020 Water Quality Targets | | | |
| WQT1 | <p>By 2018:</p> <p>At least a 50 per cent reduction in anthropogenic end-of-catchment dissolved inorganic nitrogen loads in priority areas, on the way to achieving up to an 80 per cent reduction in nitrogen by 2025</p> <p>At least a 20 per cent reduction in anthropogenic end-of-catchment loads of sediment in priority areas, on the way to achieving up to a 50 per cent reduction by 2025</p> <p>At least a 20 per cent reduction in anthropogenic end-of-catchment loads of particulate nutrients in priority areas</p> <p>At least a 60 per cent reduction in end-of-catchment pesticide loads in priority areas.</p> <p>[From Reef Water Quality Protection Plan 2013 targets, based on a comparison with a 2009 baseline]</p> | <p>Design storm water system to meet these reductions.</p> <p>Undertake risk assessment and document how outputs from storm water system meet these reductions.</p> | |
| WQT2 | <p>By 2018:</p> <p>The extent of riparian vegetation is increased</p> <p>There is no net loss of the extent, and an improvement in the ecological processes and environmental values, of natural wetlands.</p> <p>[From Reef Water Quality Protection Plan 2013]</p> | <p>Include opportunities for re-vegetation and enhancement of riparian vegetation and ecosystems;</p> <p>Use storm water planning process to:</p> <p>Protect extent and processes of natural wetland systems</p> <p>Develop opportunities to improve ecological processes and environmental values of wetland systems</p> | <p>Further information about the location and management of wetlands is available at: http://wetlandinfo.ehp.qld.gov.au/wetlands/ And there are case studies about wetland management at: http://wetlandinfo.ehp.qld.gov.au/wetlands/resources/case-studies/</p> |
| WQT3 | <p>By 2020, Reef-wide and locally relevant water quality targets are in place for urban, industrial, aquaculture and port activities and monitoring shows a stable or improving trend.</p> | <p>Ensure adequate water quality targets in plan;</p> <p>Develop and implement a water quality monitoring program for water leaving the storm water system to demonstrate stable or improving trend in outputs.</p> | <p>http://reefcatchments.com.au/wetlands/ contains information on the De Moleyns Lagoon rehabilitation project being undertaken by Mackay Council in partnership with Reef Catchments and the Queensland and Australian Governments. The project includes water quality monitoring component.</p> |

| Objective/Target | | How to reflect in a storm water management plan | Examples |
|---|--|---|----------|
| Most Relevant 2020 Water Quality Targets | | | |
| WQT5 | Traditional Owners, industry and community are engaged in on-ground water quality improvement and monitoring. | Engage community in plan development and implementation; incorporate opportunities for active involvement. | |
| Most Relevant 2035 Economic Benefit Objectives | | | |
| EBO2 | Protecting the Reef's Outstanding Universal Value is embedded within decision making with impacts first avoided, then mitigated and then, as a final consideration, any residual impacts are offset to achieve a net environmental benefit | In developing the plan, review the plan through an impact assessment lens. Are there any actions that could be avoided or undertaken in a manner with less adverse impacts on GBR values? What could be done to lessen any adverse impacts? What further rehabilitation could be incorporated to lessen the residual adverse impacts? Are there any remaining adverse impacts that should be offset? What opportunities does the plan provide for achieving net environmental benefits? | |
| EBT3 | Cumulative impacts on the Reef from human activities are understood and measures to ensure a net environmental benefit approach for the Reef are in place. | What are the main GBR values likely to be impacted by the outputs of the storm water management plan? What other processes are impacting on these same values? Is there any opportunity for a cumulative response to protect and/or improve the values? | |

Step 4: Acknowledge other considerations

QUESTIONS: Does your decision reinforce Reef 2050 Plan outcomes through active reflection of specific actions relevant to your decision? Does your decision take into account location?

SPECIFIC ACTIONS RESPONSE: There are a number of specific actions in the Reef 2050 Plan that relate to and complement storm water management planning. Generally these actions are about inclusion of a range of stakeholders such as Traditional Owners in plan development, capacity building for those implementing and interacting with the proposed plan and the setting of standards for particular activities. Often the lead reporting agency is the Queensland Government or the Great Barrier Reef Marine Park Authority, not Local Government. The role of Local Government in storm water management planning is to ensure awareness of any new standards or guidance applicable to councils in Reef catchments.

The below table demonstrates the Reef 2050 Plan actions which are specific to developing a storm water management plan, and suggests ways these actions could be reflected in your plan.

Table B: Key related Reef 2050 actions

| Reef 2050 Action | | How to reflect in stormwater management planning | Lead Agency/ partners (lead agencies in bold) |
|------------------|--|---|--|
| EHA1 | Acknowledge Traditional Owners in new and existing policy and plans | At the beginning of your policy or plan documentation, include a written acknowledgement of Traditional Owners. | GBRMPA, Traditional Owners, AG, QG |
| HA6 | Facilitate robust consideration of heritage values in planning processes including port development and associated activities | Incorporate robust heritage assessment and conservation procedures in the storm water management plan; particularly to guide implementation and construction activities | EHP, other QG, AG, GBRMPA, Ports Australia, NRMs, Traditional Owners |
| WQA5 | Increase use of cost effective measures to improve water quality from broad scale land use, urban , industrial and port activities | Take a systems and risk assessment perspective to ensure cost effective measures are optimised | EHP, other QG, Industry, service providers, LG |
| WQA6 | Establish an agreed performance-based voluntary reporting framework across agriculture, urban , ports, industry to measure management efforts to achieve best management practice and to inform regional report cards | Incorporate the framework into the plan/ implement when available | EHP, other QG, Industry, LG |
| WQA7 | Finalise and implement plans (e.g WQIPS and Healthy Waterway Management Plans) for Reef Catchments and key coastal areas, identifying implementation priorities for protection of the Reef. | Following this specific guidance will ensure the storm water management plan identifies implementation priorities for protection of the Reef. | DoE, QG, NRMs, GBRMPA, AG, IndustryLG |
| WQA10 | Review and set regionally relevant standards for urban and point source discharges into the World Heritage Area and ensure licensees meet these standards | Ensure the storm water management plan can deliver on the standards Include adaptive management provisions in plan | EHP, DNRM, DILGP, DSITI, Industry, LG |

| Reef 2050 Action | | How to reflect in stormwater management planning | Lead Agency/ partners (lead agencies in bold) |
|------------------|---|--|---|
| WQA12 | Implement best practice storm water management (e.g. erosion and sediment control, Water sensitive urban design and capture of gross pollutants) for new development in coastal catchments. | <p>Use current information sources on best practice approaches such as those listed in Collaboration to the Rescue!</p> <p>Develop guidelines specifically for implementation and operations management</p> <p>Best management practices are designed and implemented in accordance with requirements under State Planning Policy 2014 and associated guidelines.</p> <p>Best practices storm water management is designed within the context of Total Water Cycle Management Plans.</p> | EHP, other, QG, LG, industry |
| WQA13 | Build capacity for local government and Industry to improve water quality management in urban areas | Take part in capacity building opportunities and reflect in storm water management plan development, implementation through building capacity in operations management and review | DILGP, other QG, AG, LQ, LGAQ, GBRMPA |
| CBA5 | Ensure community benefits derived from the Reef are considered in local and State level policy and planning instruments and development and management decisions | <p>Consider community benefits in plan development and impact assessment</p> <p>Capitalise on opportunities for net benefits with community outcomes</p> | DILGP, other QG, LGAQ, LG, NRM |

LOCATION RESPONSE: In developing storm water management plan it is necessary to identify the current condition and trend of Reef attributes at a regional scale. The fundamental rationale is to protect what is in good condition and, restore what is in poor condition back to good (refer to table 6 in the Policy Guideline for Decision Makers on page 17 for further information).

The effects of climate change, critical habitats such as coral reefs and seagrass meadows and supporting ecological processes such as connectivity, recruitment, nutrient cycling and sedimentation in the southern two thirds of the Reef are of particular importance.

Specifically storm water planners are referred to Chapter 7 of the GBR Region Strategic Assessment (GBRMPA 2014) and regional Water Quality Improvement Plans for further information on condition and trend. Unless there is a specific attribute unique to the planning region, delivering against this requirement will be met by developing a storm water management plan that

- delivers water in accordance with agreed water quality objectives,

- enhances coastal ecosystem connectivity
- protects the extent and ecosystem processes of wetlands
- considers options of avoidance and mitigation and
- provides opportunities for a net benefit from implementation of the plan to enhance outcomes for the community.

Next steps

Once you have completed your storm water management plan, please fill out the monitoring and evaluation questionnaire at Appendix 4 of the Policy Guideline for Decision Makers, and submit to the Reef 2050 Plan inbox (reef2050@environment.gov.au). Monitoring the influence of the Reef 2050 Plan in decision making will contribute to evaluation of the policy effectiveness of the Reef 2050 Plan and will be used in Reef 2050 Plan Reporting.

This specific guidance has focussed on storm water management planning and implementation. The Reef 2050 Guideline is also applicable to other local government decisions such as reviewing the planning scheme and developing coastal hazard adaptation strategies. Taking a similar step-wise approach to applying the Reef 2050 Guideline in designing and delivering relevant decisions will support better protection of the Great Barrier Reef.

